SOLOMON YAMOAH EFFAH
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PROFESSIONAL SUMMARY

Highly motivated and results-oriented scientist with about six years of experience in computational chemistry, data analysis and visualization, programming, and machine learning. Seeking a research and development position in a cheminformatics or bioinformatics or related environment to utilize my research and programming skills to solve applicable problems

KEY SKILLS

Programming: Python (NumPy, Matplotlib, Pandas), Bash Scripting, MATLAB, OCTAVE
Machine Learning/ Data Science: Scikit-learn, PyTorch, KERAS, TensorFlow
Operating Systems: Linux, Windows, Mac
High Performance Computing: WSU Grid, LENGAU, Tesla V100 GPU
Document Creation: Microsoft Office Suite, Mendeley, Zotero
Modelling Software: Gaussian, VMD, PyMOL, Spartan, Avogadro, ChemDraw
Chemical Instrumentation: UV-Vis, GC-MS, LC-MS

EDUCATION

PhD | ***Physical Chemistry*** Sept 2021 – Present
Wayne State University Detroit, MI, USA

BS | ***Chemistry with First Class Honors*** GPA: 3.81/4.00 (Class rank:8/237 Top 3%) Sept 2016 – Aug 2020
Kwame Nkrumah University of Science and Technology Kumasi, Ghana

RESEARCH / WORK EXPERIENCE

Wayne State University
Graduate Teaching Assistant *(40 hours/week)* Sept 2021 – Present

- Demonstrated General Chemistry lab, held weekly office hours, graded quizzes, and exams
- Teaching Assistant for Survey of Biochemistry; grade quizzes, in-class exercises, and exams

Kwame Nkrumah University of Science and Technology, Department of Chemistry Kumasi, Ghana
Teaching Assistant *(40 hours/week)* Sept 2020 – July 2021

- Physical and Inorganic Chemistry; tutored, designed, and administered quizzes, and graded problem set
- Held daily office hours to help students with inorganic chemistry and physical chemistry concepts
- Supervised 2nd year organic chemistry lab sessions for chemistry students and 1st year physical chemistry lab sessions for environmental chemistry, chemical and petroleum engineering students

Research Assistant *(40 hours/week)* Oct 2020 – July 2021

- Topic: Room-temperature ammonia gas resistine sensor based on Ag/Pt doped SnO_2 /PANI nanocomposites
  Supervisor: Dr. Eric Selorm Agorku
- Topic: Carbon Nanotechnology_ Functionalization and application of [60] Fullerene
  Supervisor: Prof. Richard Tia
- Assisted final year undergraduate chemistry students with their research projects

Undergraduate Research Thesis Sept 2019 – April 2020

- Regio-, Stereo- and Enantio-selectivities of 1,3-Dipolar Cycloaddition Reaction of C,N-Disubstituted Nitrones with Substituted (E)-2-Arylidene-(2H)-Indan-1-one: A Quantum Mechanical Study.
  Supervisors: Prof. Richard Tia and Prof. Evans Adei

Theoretical and Computational Chemistry Center, KNUST Kumasi, Ghana
Research Intern (*60 hours/week*) July 2018 – Sept 2018

- Provided chemical and mechanistic insight into a series of selected organic reactions using DFT
- Learned how to use software such as Spartan 14, Gaussian 09, Avogadro, Chem Draw and CYL view

SELECTED HONOURS / AWARDS

- ***First place*** at a symposium in a poster presentation organized by **Wayne State Graduate School**
- Departmental Citation for *Excellence in Teaching Service* organized by Chemistry Department, Wayne State University
- **One of the best graduating students**, 2020 (Department of Chemistry). ***First Class Honors.***

PUBLICATIONS

- **Effah, S. Y**.; Kaushalya, W. K. D. N.; Hix, M. A.; Walker, A. R. Computational Investigations of the Excited State Dynamics and Quenching Mechanisms of Polycyclic Aromatic Hydrocarbon DNA Adducts in Solution. *Electronic Structure* **2022**, *4* (4), 044003. https://doi.org/10.1088/2516-1075/aca4ff.

SELECTED PRESENTATIONS

- Joint Summer Group Presentation; "Investigating the photophysical properties of perylene-functionalized cytidine analogue using molecular dynamics simulations". Chemistry Building, Wayne State University. July 2022
- Poster, "Regio-, Stereo- and Enantio-selectivities of 1,3-Dipolar Cycloaddition Reaction of C,N-Disubstituted Nitrones with Substituted (E)-2-Arylidene-(2H)-Indan-1-one: A Quantum Mechanical Study" – Department of Chemistry Poster Presentation Week. March, 2020
- "A DFT Mechanistic Study on the Osmium–Catalyzed Amino hydroxylation of Olefins" – Midsemester exams presentation. December, 2019

SELECTED LEADERSHIP AND VOLUNTEERING SERVICES

- **General Secretary,** *Africa Stem Network (Afrisnet) Graduate Committee [AGC]* July 2022 –Present
  - Collate and keep record of AGC files
  - Produce agendas and take minutes of all meetings
  - Manage AGC databases and coordinate AGC emails
- **Graduate School Student Panelist,** *Africa Stem Network* March 2022
  One of eight Africa Stem Network student panelist where I shared my background and stories of success. In particular, I provided best tips and practices that students can take in order to improve their chances of success during grad school application
- **Academic Board Chairperson**, *Ghana Students Chemical Society, KNUST* May 2018 – May 2019
  Organized programs geared towards improving the academic lifestyle of students such as; effective time management, life after school, balancing Christian, and social life with academics etc
- **Volunteer,** Glaucoma Awareness Campaign Feb 2019
  Together with a team, we educated the people in the community about the effects of glaucoma and the need for them to be tested

PROFESSIONAL MEMBERSHIPS

American Physical Society (APS) | American Chemical Society (ACS) | National Organization for the Professional Advancement of Black Chemist and Chemical Engineers (NOBCChE)

CONFERENCES AND WORKSOPS

- To be handed in upon request. | References are also available on request.